

INSPECTION REPORT

I. GENERAL INFORMATION

Company Name: Lawrence Livermore National Laboratory

Facility Address: 7000 East Avenue
Livermore, California 94550

Telephone Number: (925) 423- 4760

EPA ID Number: CA2 890 012 584

Facility Type: Storage and Treatment Facility

Regulated Units: Permitted Units-Area 612, Storage and Treatment; Building 695, Storage and Treatment, Building 693, Container Storage; Interim Status- Area 514, Storage and Treatment; Inactive Interim Status Units- Building 233, and Building 419.

Waste Streams: Nearly all hazardous wastes, mixed wastes (RCRA hazardous with radioactive components); combined wastes (Non-RCRA hazardous waste with radioactive components)

Regulatory Status: Permitted and Interim Status Facility; Permit effective November 19, 1999 ; Registered Hauler, Reg. No. 1351, Registration expires November 30, 2003.

Inspected by: Luz Castillo; Essam Eissa

Dates of Inspection: March 17- 19, 21, 2003

Type of Inspection: **CEI X** CME O&M Focused Limited

Type of Business: Research and Development Laboratory on: nuclear weapons, magnetic fusion, energy, lasers, biomedical and environmental sciences, and applied technology, and other nuclear applications research laboratory.

II. CONSENT

Consent to conduct inspection that involves: taking photographs, reviewing and copying records, questioning personnel and inspecting hazardous waste handling areas.

Consent given by (name and title): Stephanie Goodwin; Acting Division Leader for Radioactive and Hazardous Waste Management Division

III. DOCUMENTS REVIEWED

a. Manifests, Bills of Lading, LDR's and Exception Reports:

Manifests for 2003 were reviewed by Mr. Eissa. Both TSDF and generator manifests were reviewed. Only one shipment of waste was received from Site 300. The manifests were well organized. No violations were noted.

b. Contingency Plan:

The Emergency Coordinator list for the October 2002 revision was reviewed. LLNL personnel listed as coordinators are current. No violations were noted.

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c. Training Plan and Records:

Training records were requested for the following employees: James Bertao; Bradley Francis; Henry Muro; Gilbert Ramirez; Joseph Salazar; and Roy Warner. See Training Records on Attachment M.

The following employees have completed the required training.

The SOV issued to LLNL on April 10, 2003 (Attachment C) listed the following employees as not having received the required training. Based on the submittal received from LLNL, Bradley Francis and Roy Warner have completed the required training.

Bradley Francis, Lab Pack Technologist

EP5200-005, Field Sampling, frequency: 24 months, last completion date- 8/25/00

EP5200-006, Hazardous Waste Sampling Operations; frequency: 24 months, last completion date- 8/14/00

LLNL's Response to SOV dated April 10, 2003 (See Attachment C) indicated that Mr. Francis was hired in his current position on 10/7/02 and had 6 months to complete the OJT training. Mr. Francis completed the training on 3/19/03. A review of Mr. Francis' employee record on Attachment M showed that he was a Lab Pack Contractor from 3/8/99-1/23/01. LLNL hired Mr. Francis as a Lab Pack Technologist on 10/7/02.

Based on the information provided, Mr. Francis, Lab Pack Technologist, has taken courses EP5200-005, Field Sampling and EP5200-006, Hazardous Waste Sampling Operations training as required for his new position.

Roy Warner, Material Storage Technologist

EP055-100, Hazardous Waste Shipping; frequency: 36 months, last completion date- 3/16/00

LLNL's Response to SOV dated April 10, 2003 (See Attachment C), indicated that Mr. Warner completed the training on 3/19/03; EP055-100, Hazardous Waste Shipping was due on 3/16/03.

The required refresher training for the following Hazardous Waste Management employees were not provided or completed. See the details on the training deficiencies in the Violations Section, Violation 1, of this report.

1. James Bertao, Legacy Waste Technician

HS4610, Basic Respirator Training; frequency: 12 months, last completion date -6/30/98;

HS4630, Self-contained Breathing Apparatus; frequency: 12 months, last completion date- 4/11/00;

HS5690-CERT, Incidental Crane Safety Certification; frequency, 60 months, last completion date- not shown on the record provided; training record as of March 18, 2003 shows the due date for the course as "NOW"

LLNL's Response to SOV dated April 10, 2003 (Attachment C) indicated that the above courses were required from his previous position, but the employee did not attend as scheduled. LLNL stated that Mr. Bertao will take these trainings in May 2003.

2. Henry Muro, Storage Driver

EP5102-003, Reading Program: Management and Operations Personnel; frequency: 12 months, last completion date- 12/26/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C), indicated that Mr. Muro has completed the EP5102-003, Reading Program: Management and Operations Personnel training on 3/25/03; the refresher course was due 12/26/02.

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EP5120-033, Waste Management Unit Inspection, Procedures, and Emergency Response, Liquid Waste Pumpouts; frequency: 24 months, last completion date- 2/27/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C), indicated that Mr. Muro has completed the EP5120-033, Waste Management Unit Inspection, Procedures, and Emergency Response, Liquid Waste Pumpouts training on 5/1/03; the refresher course was due 2/27/03.

EP5120-038, Waste Management Unit Inspection, Procedures, and Emergency Response, 1000-gallon vacuum tanker; frequency: 24 months, last completion date- 2/27/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C), indicated that Mr. Muro has completed the EP5120-038, Waste Management Unit Inspection, Procedures, and Emergency Response, 1000-gallon vacuum tanker training on 4/29/03; the refresher course was due 2/27/03.

3. Gilbert Ramirez, Area 612 Storage Tech

EP5120-039, Waste Management Unit Inspection, Procedures, and Emergency Response, Receiving and Segregation; frequency: 24 months, last completion date- 1/15/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C), indicated that Mr. Ramirez has completed the EP5120-039, Waste Management Unit Inspection, Procedures, and Emergency Response, Receiving and Segregation training on 3/24/01; the refresher course was due 01/15/03.

4. Joseph Salazar, Storage Driver

EP5120-022, Waste Management Unit Inspection, Procedures, and Emergency Response, Building 693 Container Storage Units; frequency: 24 months, last completion date- 2/2/01

EP5120-039, Waste Management Unit Inspection, Procedures, and Emergency Response, Receiving and Segregation; frequency: 24 months, last completion date- 2/2/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C), indicated that Mr. Salazar has completed these trainings on 4/8/03: EP5120-022, Waste Management Unit Inspection, Procedures, and Emergency Response, Building 693 Container Storage Units and EP5120-039, Waste Management Unit Inspection, Procedures, and Emergency Response, Receiving and Segregation; the refresher for the above courses was due 2/2/03.

The following courses are being removed from the list of courses not completed by Mr. Salazar as contained in the SOV. Based on the submittal received from LLNL, the following courses have been completed in a timely manner.

EP055-100, Hazardous Waste Shipping; frequency: 36 months, last completion date- 3/16/00

According to LLNL's Response to SOV dated April 10, 2003 (See Attachment C), Mr. Salazar completed training on 3/19/03; training for EP055-100, Hazardous Waste Shipping was due on 3/16/03.

HS5690, Incidental Crane Safety; frequency: 60 months, last completion date- 10/07/99; training record as of March 18, 2003 shows the due date for the course as "NOW"

HS5690-CERT, Incidental Crane Safety Certification; frequency: 60 months, last completion date- 03/03/00; training record as of March 18, 2003 shows the due date for the course as "NOW"

According to LLNL's Response to SOV dated April 10, 2003 (See Attachment C), Mr. Salazar completed the above courses on 6/26/02. LLNL stated, "There was a technical problem with the training database (LTRAIN), which caused the course completion to be omitted from the course completion reports. The issue has been addressed and is resolved."

d. Incident Report:

There were no reports of any incidents involving hazardous, mixed, or combined wastes that required the implementation of the Contingency Plan.

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e. Waste Analysis Plan and Records:

Records were reviewed for the following:

1. Analysis for the non-hazardous waste sludge (W213094/WEF258) observed in a drum located at Area 612-5.

The Waste Disposal Request (WDR) for the waste jet sludge was referred to WEF 258-1, a previous waste determination that had been made on the routinely generated waste from water jet cutting operation. Analysis showed the waste as non- hazardous. No violation was noted.

2. Laboratory analysis of Building 513 wastes before and after stabilization (before treatment- W136644, W209307; after treatment- W213930, W213927)

Refer to waste analysis records review discussion under Item III. f.E.2., Building 513/ Stabilization Treatment Record.

3. Analysis of waste in Q00067961/W22430, located at 693-1012.

Metals analysis on the mask cleaning solution showed concentrations below regulatory levels. The waste was hazardous due to corrosivity. No violation was noted. See Attachment G.

f. Operation Log:

- A. During the walk-through, containers observed in the storage areas were picked at random and information on the drum was noted for operating record review purposes. Operating record information kept on-site such as description/quantity of waste, TSDF start date and location, and Site Treatment Plan (STP) status (if applicable) were requested for review.

1. No violations were noted on the operating record information of the containers identified below. See Attachment D, Container Operating Records (CCR) for the containers except as noted.

R010664**	R010726	R006858	Q00076143
Q00026473	R011580	612B103	Q00061551
Q00072623	Q00043188	612H116	Q00075977
Q00072447	Q00078294	Q00050897	LL85101042TR (CCR, See Attachment G)
Q00080145	Q00078292	Q0008623	LL85800505TR (CCR, See Attachment G)

** A typographical error was noted on the Building 614-East-1103 inventory list posted outside the storage cell in that, the TSDF date was 10/25/00 instead of 10/25/91. The correct TSDF start date is shown on the CCR- 10/25/91. The correct TSDF date was verified using the Container Transaction Query on the Total Waste Management System database. See Attachment R. No violations were noted.

2. Transportainer Q00070557, located at Area 612-1 Container Storage Unit, North of Tent B.

The transportainer contained used hepa filters as follows:

- a. Hazardous waste hepa filters- the 3 hazardous waste filters had been in storage since July 1993 and April 1994. LLNL had requested extension on the wastes. See Attachment P.
- b. Mixed waste hepa filters- all were listed under STP waste stream LL-W015. See Attachment P.
- c. Low level with CA waste and low-level only waste. See Attachment P.

No problems were noted.

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3. Q00075751, TSDF start date-11/21/02, observed in Area 514-2C.

The Container Contents Report (CCR) did not have the TSDF start date and location of the container. See Summary of Violations, Violation 4.d., Attachment C; See CCR on Attachment N.

A corrected CCR was sent to DTSC on March 28, 2003. See Attachment N.

4. Q00075725, TSDF start date- 7/19/01, observed in Building 513.

The TSDF date on the CCR, 8/9/00, was different from the TSDF date on the drum label, 7/19/01. See Summary of Violations, Violation 4.e., Attachment C; See CCR on Attachment O.

In a phone conversation with Vicky Salvo, she stated that container Q00075725 was an overpack; container Q00062983 was placed in an overpack on 8/9/00. On 7/19/01, the waste in Q00062983 was treated by stabilization (See treatment record on Attachment O). The TSDF start date - 7/19/01 on the drum label observed in Area 513 was correct.

A corrected CCR with TSDF start date of 7/19/01, was sent to DTSC on March 28, 2003. See Attachment O.

- B. The following containers were obtained from off-site manifests (shipments from Site 300 to the main laboratory) to determine the status of containers :

1. Q00074860, a roll-off containing 31 drums.

Received from LLNL, Site 300 on July 30, 2002, manifest no. 2176643; shipped off-site in a roll-off bin, Q00066035, on July 31, 2002 to Safety-Kleen, Button Willow, manifest 2176644. See Attachment Q. No violation was noted.

2. Q00060940; Q00064308; Q00064309; Q00067581; Q00067582; Q00067583.

Containers were received from LLNL Site 300 on January 10, 2002, manifest no. 99555539 (See Attachment K). On August 28, 2002, these containers were shipped to Safety-Kleen accompanied by manifest no. 21766457. However, the Container Contents Report showed Building 693-1004 as the location of the containers. See Summary of Violations, Violation 4.a., Attachment C.

In addition, the Container Contents Report for containers Q00067581, Q00067582 and Q00067583 (See Attachment K), had an incorrect TSDF start date of December 18, 2001, instead of January 10, 2002, the actual date of receipt of the wastes. See Summary of Violations, Violation 4.b., Attachment C.

Corrected Container Contents Reports were sent to DTSC on March 28, 2003. See Attachment K.

3. Q00084933; Q00067464; Q00047694; Q00054925; Q00050372.

Containers were received from LLNL Site 300 on 02/01/02, manifest number 99555562. The wastes were shipped to Heritage on 02/28/02, manifest no. 99555573. The Container Contents Report showed the location of these containers as "Stage" meaning being staged for shipment. See Summary of Violations, Violation 4.c., Attachment C; See CCR on Attachment L.

Corrected Container Contents Reports were sent to DTSC on March 28, 2003. See Attachment L.

- C. Status of containers that LLNL had previously requested for extended storage.

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A list of 54 containers was provided to LLNL (See Authorization Request Table on Attachment H). A summary of the containers' status is as follows. See Attachment H for details.

LLNL's response to DTSC's container status information request (Attachment H) is as follows:

1. Twenty-seven (27) containers have been shipped off-site. No violation was noted.
2. Two (2) containers have no disposal option. No violation was noted.
3. Twenty-two (22) containers are pending profile amendment and updating of WDR to reflect recently received analytical .

Two (2) out of the 22 containers, Q00043498/W154136 and Q00053568/W154435, had been in storage over 1 year when LLNL requested for storage extension. See SOV, Violation 2, Attachment C; See Attachment I.

In response to my inquiry on the two waste streams STP eligibility, Ms. Salvo stated that the wastes were not eligible STP waste streams since there is available treatment technology for the wastes.

The wastes are currently stored inside a box, 2' x 4' x 7' (Q00007463), in Area 612-5. The TSDF dates for containers Q00043498/W154136 and Q000053568/W154435 are 9/18/00 and 4/11/00, respectively. In LLNL's storage request extension letter on 4/12/02, LLNL stated that W154435 container was received into the facility on 5/2/00; CCR showed the waste was received on 4/11/00. See CCR, lines 20/21 & 30/31 and extension letter on Attachment I.

4. One (1) container has analytical under review. No violation was noted.
5. One (1) container has been added to the Site Treatment Plan. No violation was noted.
6. One (1) Rad only pending shipment to Nevada Test Site (NTS), Q00039582/W127121. See Attachment J.

Q00039582/W12721, stabilized waste, was previously identified as a mixed waste, "F002", in LLNL's June 26, 2001 (See Attachment J) request for authorization to continue storage greater than one year. Documentation was requested during the inspection to determine the basis for reclassifying the waste to low level waste as follows:

Original three (3) waste streams prior to stabilization (See Attachment J):

- a. 5-gallon, Q00019019/W101034, EPA waste codes D006, D007, D008; HWM approval date, 7/24/96;
- b. 10-gallon, Q00010540/W104536, EPA waste codes D007, D008, D009; HWM approval date, 4/22/96;
- c. 5-gallon, Q00015083/ W103241 -D007, D009, D039 (tetrachloroethylene); HWM approval date, 3/5/96;

HWM updated the WDR on 8/17/98 to include "F002" to waste code due to the presence of tetrachloroethylene. Based on the comment on the WDR, the addition of "F002" was the practice if there was any solvent detected.

On 2/22/02, another HWM change request was completed to remove the waste code "F002" from the WDR since there was no indication from the generator that the solvent was used for its solvent properties.

Stabilized waste

On 8/25/98, the wastes described in a, b, and c above (W101034, W104536 and

W103241), were treated by stabilization. A 55-gallon inorganic stabilized waste, Q00039582/W127121 was generated. The waste was designated with EPA waste code "F002", a listed waste, due to the presence of tetrachloroethylene on one of the original waste streams. See Attachment J.

TCLP volatiles analysis dated 11/13/00, and metals analysis dated 9/1/98 done on the stabilized waste showed tetrachloroethylene and metals concentrations below the regulatory levels. See Attachment J.

On February 22, 2002, another HWM Change Request was completed for W127121, changing the classification of the stabilized waste from mixed waste to low level waste, based on the analysis conducted on the treated waste, and the determination made by the generator on 2/22/02 for W103241. See Attachment J.

Additional information requested from LLNL

On 5/9/03, I asked LLNL via e-mail to explain how the solvent tetrachloroethylene (or "perc") was used in the lab since LLNL claims that it was not used for its solvent properties. As of the date of this report, a response has not been received.

D. STORAGE IN TANKS/CONTAINERS CAPACITIES

Based on the inventory provided (See Attachment F), the total volume of regulated and non-regulated waste and materials including radioactive materials in each storage unit did not exceed the allowable storage capacities listed in the permit.

The cumulative volume of regulated waste stored in all units (including tanks) did not exceed 808,000 gallons (See Attachment F). No violations were noted.

E. TREATMENT RECORDS

1. Area 514 Wastewater Treatment Tank Farm Unit and Quadruple Tank Unit.
The following was the only treatment conducted from June 2002 to the present. See Attachment S for details)

August 27-28, 2002:	Triple rinsing of empty containers in Area 514; generated 9, 239 liters of mixed waste.
August 29-Sept. 4, 2002:	Basic hydroxide preparation using R5A2, R5A3, R5A4, R5A1 and vacuum filtration (Dorr Oliver Unit); generated 3 drums of filter cake/sludge (W222140, W222141, W222142).
Sept. 6- 18, 2002:	Filtrate transferred to Quad tank 514R5A7 and processed through the Cold Evaporator Unit; condensate (clean liquid) from the evaporator stored in Quad tank 5145A9.
Sept. 30, 2002:	Sampled condensate in Quad tank 5145A9, COC 11875; discharged to sewer.

No violations were noted.

2. Building 513/ Stabilization Treatment Record
(See Attachment S for details)

LLNL treated 100 gallons of mixed waste (Q000455958/W136644, Q00055875/W209307) on 10/31/02, by stabilization. The treatment generated four (4) drums of stabilized wastes, Q00075740/W213930, Q00075741/W213927, Q00075742/W213928, Q00075743/W213929). Waste analysis records before and after stabilization were reviewed (See Attachment S).

Before stabilization: WDR for Q000455958/W136644 and for Q00055875/W209307, were designated with EPA waste code- D008. Analytical

records did not detect the presence of volatiles.

After stabilization: four drums were generated. Samples were collected from two containers, W213930 and W213927. Analytical records for total metals present showed concentrations below regulatory levels. Based on the analysis conducted, the waste after treatment did not show any hazardous waste characteristics.

No violations were noted.

3. Building 612 Container Crushing Unit
(See Attachment S for details)

The crushing logs were reviewed. The total amount of drums crushed in 2002 was 36,460 pounds (18.23 tons); this amount is below the permitted treatment capacity of 600 short tons/year. No violations were noted.

g. Inspection Records:

Areas 612 and 514, Building 693

Daily and weekly inspection records for: Container Storage Units located at Area 612 and 693; Area 514 Container Storage Treatment Unit were reviewed. No violations were noted.

Buildings 233 and 419, Inactive Storage Units

Weekly inspection records for Building 233 and Building 419, inactive units, were reviewed. The inspection record for building 419 indicated the inspector's inability to conduct inspections in certain areas due to a safety concern. On April 28, 1999, LLNL's Industrial Safety Team inspected the area and it was determined that based on the high potential for falling debris from the ceiling material, inspection was to stop and the room be secured until facility Decontamination and Decommissioning activities are initiated. See Attachment U. No violations were noted.

h. Tiered Permitting Applications and Authorization Letters:

Not reviewed.

i. Annual/Biennial Reports:

An extension for the submittal of the Annual Facility Report due March 1, 2003 was requested. See Attachment T.

j. SB 14 Plans:

LLNL's Hazardous Waste Facility Permit requires the submittal of a Waste Minimization Plan every four years to DTSC. A plan was submitted to DTSC in 1999. LLNL is currently working on the Hazardous Waste Management Performance Report due for submittal on September 1, 2003.

k. Closure Cost Estimates and Updates:

Not Applicable.

l. Part A:

Reviewed prior to the inspection.

m. Part B:

The latest revision was reviewed.

n. POTW Compliance Data:

Not reviewed.

o. Tank and/or Containment Certifications:

Not reviewed.

p. Hauler Registration:

LLNL's Hauler Registration expires on November 30, 2003. See Attachment E, Current Hauler Registration and Insurance.

IV. NARRATIVE OF OBSERVATIONS/DISCUSSION WITH OPERATOR
See Site Maps, Attachment A, for reference.

March 17, 2003

Upon arrival at the site, Mr. Essam Eissa and I proceeded to the West Badge Office. We informed the Badge office personnel that we were there to conduct an unannounced Compliance Evaluation Inspection. The Badge office contacted Mr. Thomas Kato, our contact person. We waited at the Badge Office until we were provided a badge for an escorted access to the site. Ms. Vicki Salvo and Mr. Stan Terusaki met us at the Badge office. Upon issuance of our badge, we proceeded to the Environmental Protection Department office located at T-5475 for a pre-inspection meeting.

The meeting was attended by Lawrence Livermore National Laboratory (LLNL) and Department of Energy (DOE) personnel (See Attachment B). I informed the attendees that we were there to conduct a Compliance Evaluation Inspection (CEI) which would include a walk-through at the permitted and interim status areas, and 90-day storage areas, specifically the Lab packing Area and the Receiving, Segregation, and Container Storage Unit. I added that we will not be doing a walk-through at the inactive interim status areas at Building 233 and 419, but we will be looking at inspection records. I informed them that we may be requesting photographs as necessary during the walk-thru. In addition, I stated that we will be taking radiation readings during the walk-through using Ludlum 19. I asked for consent to conduct the inspection as described, and Ms. Stephanie Goodwin granted us consent.

I inquired about any changes at the facility in addition to the recently approved modifications effective December 2002 which included the training plan modification and 2.5 feet aisle space distance for incompatible solids. Ms. Goodwin stated that the Solidification Unit has been transferred from Building 513 to Building 695, as part of the Transition Plan. Mr. Keith Warwick, responded that the south side of Area 612 has two personnel gates under construction, and also a new Vial Crusher has been placed in Area 513. According to Mr. Warwick, the Vial Crusher has not been used.

After the meeting, Ms. Vicki Salvo, Messrs. Richard Michalik, Stan Terusaki, Keith Warwick, Essam Eissa and I, proceeded to Area 612.

Area 612 Container Storage/Treatment Group, See Attachment A, Page 3

At Area 612, we were met by Ms. Kerry Cadwell, and Mr. Jay Morris who accompanied us during the inspection.

Building 612 Lab Packing/Packaging Container Storage Unit

This area is under generator status since December 4, 1999. Containers received in this area are segregated by waste type and hazardous characteristics. All containers placed into the lab-pack are tracked in the computer. The date on the lab-pack is date of the oldest container. Containers in the area were properly labeled, segregated and managed. No violations were noted.

Area 612-4 Receiving, Segregation and Container and Storage Unit

This area is a Consolidated Waste Accumulation Area (CWAA), divided into five cells -Acids, Poisons, Caustics, and two Flammable Bays. This area is for 90-day accumulation only, as of December 4, 1999.

The drums were properly labeled, stored and adequate aisle space between rows was maintained. The drums were all within the 90-day storage limit for generators. The eyewash/shower was tested and was found to be in good operating condition. No violation was noted.

Area 612-5 Container Storage Unit

Area 612-5 consists of a tent area, a caged area, and an open area.

The tent area, consisted mainly of stacked storage boxes of mixed and radioactive wastes. The containers well properly stored and maintained.

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The caged area, a classified storage area, consists of four transportainers, 612-5 TR1, 612-5 TR2, 612-5TR3, 612-5 TR4. Transportainer 612-5TR4, was labeled "empty". The reading on the Ludlum 19 was close to the 2 millirem/hr DTSC exposure limit near the classified wastes; the contents of the transportainers were not inspected due to the high reading.

The open area west of the tent contained drums that have numerous non-hazardous waste labels. One drum was labeled, "non-hazardous water jet sludge". I asked Ms. Salvo for a copy of the waste determination made on the water jet sludge for later review. See Waste Analysis Review, Item III.e.1. of this report. In another open area, north of the tent, drums containing mainly radioactive wastes were observed. No violations were noted.

Building 614 Container Storage Unit

Building 614 consists of the west and the east cells with four storage units each. This is the only storage area where the capacity for the storage units is determined by the actual amount of waste held by the containers. This requires that a current inventory of the containers and the amount of wastes stored in the containers are maintained for each cell. An inventory was posted outside each storage cell. A copy of the inventory from each cell was requested (See Attachment F). For the other permitted storage units, capacity is based on the maximum capacity of each container stored in the units. See Attachment V, Hazardous Waste Facility Permit (HWFP), Part IV.9. (c).

The eight storage cells in Building 614 were inspected. No problem was noted except in cell 1002. In Building 614 -West Room1002, the drums located in the northeast and northwest corners were not accessible due to the lack of aisle space (See Attachment A, Photo. Nos. 1 & 2). The next day, LLNL corrected the problem by re-arranging the containers to provide the required aisle space and by moving some drums to the adjacent cell, Room 1001 (See Attachment A, Photo. Nos. 3 & 4). In addition, Mr. Morris provided us with a "HWM Purchase Request" for new containment platforms (See Attachment C). The modular spill containment platforms would allow LLNL to easily configure the placement of the drums for easy access, and for safe and easy loading and unloading.

We continued on to south of Building 614 where I observed a Transportainer labeled as containing rad only wastes. The Transportainer was opened by Mr. Brad Francis while we stood and viewed the "rad only" contents from a safe distance. No violations were noted.

Area 612 Portable Tank Storage Unit

In this storage unit, I observed 9 portable tanks and 4 totes. All containers were properly labeled, and adequate aisle space was maintained as required. No violations were noted.

Building 612 Container Storage Unit

Building 612 houses the Size Reduction and the Drum/Container Crushing Units and a Container Storage Area. The size reduction unit has not been used according to Mr. Morris. The Drum/Container Crushing Unit was last used on 01/15/03. A copy of the crushing unit log was requested for review. See Item III. f. E.3. of this report for details on the review.

The storage area was viewed from the entrance due to the elevated radiation reading of ≥ 2 millirem per hour; DTSC has an exposure limit of 2millirem per hour. The drums appeared to be in good condition and properly maintained. No violations were noted.

On our way to Area 612-2 CSU, we observed a 5,000-gallon (approx.) tanker truck. The truck, license no. E90990, was labeled "non-hazardous". The tanker had LLNL's logo marked on the sides as required. According to Mr. Morris, the non-hazardous wastewater came from site 300. The water will be sampled and analyzed and if it meets sewer discharge requirements, the water will be discharged into the sewer. Mr. Morris said LLNL has a different group responsible with sewer discharge requirement compliance issues. No violations were noted.

Area 612-2 Container Storage Unit

The containers in the area were properly labeled and maintained. In the southeast corner of the storage area, I observed Transportainer, STU1-624. As requested, Mr. Henry Muro opened the container which contained 35-gallon and 55-gallon drums of mixed waste, an 85-gallon overpack and 2 boxes of contaminated equipment. The containers were individually labeled. The Transportainer was being used as a storage unit for the wastes. No violations were noted.

Area 612-1 Container Storage Unit

This area consists of tents A and B, an open area, and 3 transportainers.

Between tents A and B, I observed containers containing only radioactive wastes. Containers in tent A

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were inspected and the containers appeared to be in good condition and adequate aisle space was being maintained. Tent B was viewed from outside due to a high reading of ≥ 2 millirem/hour. The containers appeared to be stored properly. No violations were noted.

March 18, 2003

Upon arrival at the site, Mr. Essam and I met briefly with Ms. Salvo in her office and proceeded to the Area 514 complex after obtaining consent to continue the inspection from Ms. Salvo.

Area 514 Complex, under Interim Status, See Attachment A, Page 6

Upon arrival at Area 514, we were met by Mr. Scott Kidd, Supervisor. Messrs. Richard Michalik, Stan Terusaki and Wen Kao, representing Department of Energy, were also at Area 514 to join us in the inspection. Mr. Kidd escorted us to the storage and treatment areas of Area 514 complex.

Area 514-3 Container Storage Unit

This unit is permitted for storage of hazardous, radioactive, and mixed wastes stored in containers and in portable tanks. The drums were properly stored, labeled and adequate aisle space was observed between drums and between portable tanks. No violations were noted.

Treatment Processes

Mr. Kidd explained the treatment processes: from the wastewater treatment tanks, the vacuum filtration unit, cold evaporator units, the quadruple tanks, and finally the discharge of the waste water to the sewer. There was no treatment being conducted at the time of the inspection. One tank contained a small amount of waste, approximately 120 gallons, according to Mr. Kidd. The last treatment was conducted in September 2002. A copy of the last treatment record was requested for review (See Attachment S). For details on the review, see Item III.f.E.1. of this report.

The shower/eyewash in the area was tested and it was found to be working in good condition.

Area 514-2 Container Storage Unit- the drums in this area were properly stored, labeled and in maintained. Adequate aisle space was being maintained as required.

Area 513 Container Storage Unit and Solidification Unit

Drums were properly stored, labeled and maintained in the storage unit. The solidification unit previously located at the west end of the building had been removed and transferred to Building 695, Decontamination and Waste Treatment Facility (DWTF) Complex. The solidification unit was last used on 10/31/02 (See Attachment S, and Item III.f.E.2. for details on the review of the solidification record). The transfer of the solidification unit is identified in the facility's permit as Phase A of the Transition schedule involving the transfer of existing waste management units in Area 514 complex to the newly constructed DWTF complex, Building 695.

The east end of Building 513 houses a new vial crusher. LLNL plans to use the equipment to crush vials containing non-regulated waste. The crusher has not been placed in operation at the time of the inspection.

No violations were noted in the Area 514 complex.

Building 693 Container Storage Units, See Attachment A, Page 5

Building 693 is divided into four cells: 1000; 1004; 1008; 1012. All cells except 1012 were inspected. The eyewash/shower in the three cells were tested and they were found to be in good operating condition. The drums in the cells were properly stored and adequate aisle space was observed between the drums. No violations were noted.

Cell 1012 was not inspected since the radiation reading was above DTSC's limit of 2 millirem per hour. We viewed the drums in cell 1012 from cell 1008 via a side door.

Cell 1012 contained transuranic (TRU) mixed wastes, TRU only, hazardous, mixed and combined wastes based on the inventory provided during the inspection (See Attachment G). Container information were requested from the drum inventory provided (See Attachment D and G, Containers LL85101042TR & LL85800505TR). Waste analysis records were requested from a container picked from the inventory. See Attachment G, container Q00067961.

North of Building 693 container storage units were B693 Annex Classified Waste Storage and the Freezer Storage areas. These areas are not yet in use.

Building 695, DWTF Complex, See Attachment A, Page 4

Mr. Willie Montemayor took us around the DWTF complex which consists of storage and treatment units. The complex is located west of Building 693. The complex is not yet in operation.

LLNL's permit allows the continued operation of the treatment and storage units in Area 514 until the activation of the DWTF complex. The solidification unit located in Building 513 has been transferred to the DWTF Complex. Other operations that will be transferred from Area 514 include the: Cold Evaporation Unit; Portable /Waste Blending Unit; tank Blending Unit; Centrifugation Unit and the Carbon Adsorption (Gas Adsorption Unit). The following operations at Area 514 will be closed when the DWTF becomes fully operational: Area 514 Quadruple Unit; Waste Water Filtration Unit; Waste Water Treatment Tank Farm Unit; Bulking/Blending Unit; and container storage units.

Building 280 Container Storage Unit, See Attachment A, Page 2

LLNL's permit allows the storage of solid hazardous, mixed, non-RCRA hazardous (includes transuranic waste) in the permitted storage area. However, on April 13, 2001, LLNL sent a letter to DTSC of their intent to submit a permit modification request to remove Building 280 Container Storage Unit from the permit.

March 19, and 21, 2003

The records review portion of the inspection was conducted on March 19 and 21, 2003. See Item III. of this report for documents reviewed.

March 21, 2003

At the completion of the inspection, a close-out meeting was held with LLNL and DOE personnel (See List of Attendees on Attachment B).

I began the meeting by identifying the areas inspected as follows: the permitted areas- Area 612, Building 693; and interim status storage areas- Area 514. As for the inactive areas, Building 419 and 233, I stated that they were not inspected but the inspection records were reviewed. I also mentioned the inspection of the Lab-packing Area and the Receiving Area, 612-4, 90-day generator areas. I complimented LLNL for the excellent housekeeping we observed in the areas visited.

As for our findings, I mentioned that in Building 614-west, cell 1002, drums were not accessible due to inadequate aisle space. I told them that based on the pictures presented to us by Mr. Morris, the aisle space problem noted has been corrected. The pictures showed that some drums in cell 1002 had been moved to the next cell, providing more aisle space in cell 1002. In addition, Mr. Morris had showed us a purchase request for new spill containment pallets for easier access to the drums.

I also informed them of the operating record inaccuracies observed in the Container Contents Report (CCR). Wastes received from Site 300 that had already been shipped off-site, were shown on the operating record, as being stored on-site. In addition, the date the drums were received were incorrect on the CCR. I stated that Mr. Morris showed us a Manifest Query information he researched in his computer that showed the actual date the wastes were received from Site 300 and shipped off-site including manifest numbers; Mr. Morris said the information was not provided for TWMS data entry so the information on the CCR was not updated. See Item III.f. B. and Violations Section for details.

Another operating record problem I noted was regarding an overpack drum located in Building 513. In comparing the drum label observed and the CCR, I observed that the TSDF date on the CCR was different from the date observed on the drum label during the walk-through. See details in Item III.f.A.4 of this report, container Q00075725.

Pertaining to request for storage extensions, I reminded them of LLNL's late request for 2 drums of mixed waste. The request was sent after the storage limit has been exceeded. See Item III.f.C.3. of this report.

Ms. Cadwell asked if Ms. Salvo had specific information on the operating record problems I noted. I responded that I had discussed them with Ms. Salvo and I will go through them again before we leave.

Ms. Salvo asked if the aisle space problem noted in Building 614 west-1002 would still be a violation since it has been corrected. I said that it would be cited as a violation but with no further action required.

Mr. Kao asked how many violations I have noted so far. I said there were three violations: inadequate aisle space, inaccurate operating records and storage of waste over one year.

I reminded them that the violations were from the walk-through and that I will be reviewing the documents I have requested such as: training records; waste analysis; treatment records and other hazardous waste

related documents. I mentioned that I will be contacting Ms. Salvo for the issuance of the Summary of Violations; I added that any violations found during the records review will be addressed in the SOV.

I thanked them all for their presence at the meeting and for their extreme cooperation during the inspection, and for Ms. Salvo's help in providing us the documents we needed for our review.

V. VIOLATIONS

Failure To Provide a Review of Initial Training (Class II Violation)

1. LLNL violated Health and Safety 25202(a), California Code of Regulations, title 22, section 66264.16(c) in that on or about March 17, 2003, the required refresher training for Hazardous Waste Management employees were not provided or completed, to wit:

James Bertao, Legacy Waste Technician

HS4610, Basic Respirator Training; frequency: 12 months, last completion date -6/30/98

LLNL's Response to SOV dated April 10, 2003 (See Attachment C)

During employee's previous position as a "Storage Technician" (1/14/02-1/27/03) this training was required. However, he did not attend the training as scheduled. Since under his new job title, he has 6 months to complete this training, employee will take the course on 5/13/03.

DTSC's Response

LLNL's failure to provide the required training for HS4610, Basic Respirator Training remains a violation. As a Storage Technician, Mr. Bertao was due for refresher training on 6/30/99; 6/30/00; 6/30/01; and 6/30/02.

HS4630, Self-contained Breathing Apparatus; frequency: 12 months, last completion date- 4/11/00

LLNL's Response to SOV dated April 10, 2003 (See Attachment C)

During employee's previous position as a "Storage Technician" (1/14/02-1/27/03) this training was required. However, he did not attend the training as scheduled. Since under his new job title, he has 6 months to complete this training, employee will take the course on 5/13/03.

DTSC's Response

LLNL's failure to provide the required training for HS4630, Self-contained Breathing Apparatus remains a violation. As a Storage Technician, Mr. Bertao was due for refresher training on 4/11/01; 4/11/02.

HS5690-CERT, Incidental Crane Safety Certification; frequency, 60 months, last completion date- not shown on the record provided; training record as of March 18, 2003 shows the due date for the course as "NOW".

LLNL's Response to SOV dated April 10, 2003 (See Attachment C)

During employee's previous position as a "Storage Technician" (1/14/02-1/27/03) this training was required. However, he did not attend the training as scheduled. Since under his new job title, he has 6 months to complete this training, employee will take the course in May 2003

DTSC's Response

LLNL's failure to provide the required training for HS5690-CERT, Incidental Crane Safety Certification remains a violation. As a Storage Technician, Mr. Bertao was required to take the refresher training.

Compliance Action

Within 30 days of receipt of this letter, LLNL shall provide to DTSC, documentation demonstrating that Mr. Bertao has taken these courses for his new job title: HS4610, Basic Respirator Training; HS4630, Self-contained Breathing Apparatus; HS5690-CERT, Incidental Crane Safety Certification.

Based on LLNL's response, the following employees have completed the refresher training. No further action is required. However, LLNL shall ensure that all required HWM courses are provided to employees in a timely manner.

Henry Muro, Storage Driver

EP5102-003, Reading Program: Management and Operations Personnel; frequency: 12 months, last

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completion date- 12/26/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C)

Employee completed training on 3/25/03

DTSC's Response

LLNL's failure to provide the required training for EP5102-003, Reading Program: Management and Operations Personnel remains a violation. Mr. Muro was due for the course on 12/26/02, which he completed on 3/25/03.

EP5120-033, Waste Management Unit Inspection, Procedures, and Emergency Response, Liquid Waste Pumpouts; frequency: 24 months, last completion date- 2/27/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C)

Employee completed training on 5/1/03

DTSC's Response

LLNL's failure to provide the required training for EP5120-033, Waste Management Unit Inspection, Procedures, and Emergency Response, Liquid Waste Pumpouts, remains a violation. Mr. Muro was due for a refresher on 2/27/03, which he completed on 5/1/03.

EP5120-038, Waste Management Unit Inspection, Procedures, and Emergency Response, 1000-gallon vacuum tanker; frequency: 24 months, last completion date- 2/27/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C)

Employee completed training on 4/29/03

DTSC's Response

LLNL's failure to provide the required training for EP5120-038, Waste Management Unit Inspection, Procedures, and Emergency Response, 1000-gallon vacuum tanker remains a violation. Mr. Muro was due for a refresher on 2/27/03, which he completed on 4/29/03.

Gilbert Ramirez, Area 612 Storage Tech

EP5120-039, Waste Management Unit Inspection, Procedures, and Emergency Response, Receiving and Segregation; frequency: 24 months, last completion date- 1/15/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C)

Employee completed training on 3/24/03.

DTSC's Response

LLNL's failure to provide the required training for EP5120-039, Waste Management Unit Inspection, Procedures, and Emergency Response, Receiving and Segregation, remains a violation. Mr. Ramirez was due for a refresher on 1/15/03, which he completed on 3/24/03.

Joseph Salazar, Storage Driver

EP5120-022, Waste Management Unit Inspection, Procedures, and Emergency Response, Building 693 Container Storage Units; frequency: 24 months, last completion date- 2/2/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C)

Employee completed training on 4/8/03.

DTSC's Response

LLNL's failure to provide the required training for EP5120-022, Waste Management Unit Inspection, Procedures, and Emergency Response, Building 693 Container Storage Units, remains a violation. Mr. Salazar was due for a refresher on 2/2/03 which he completed on 4/8/03.

EP5120-039, Waste Management Unit Inspection, Procedures, and Emergency Response, Receiving and Segregation; frequency: 24 months, last completion date- 2/2/01

LLNL's Response to SOV dated April 10, 2003 (See Attachment C)

Employee completed training on 4/8/03.

DTSC's Response

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LLNL's failure to provide the required training for EP5120-039, Waste Management Unit Inspection, Procedures, and Emergency Response, Receiving and Segregation remains a violation. Mr. Salazar was due for a refresher on 2/2/03, which he completed on 4/8/03.

Evidence: Attachment M, Training Records.
Witness: Luz Castillo

LLNL has taken steps to correct violations 2-4 .

Storage Greater Than One Year (Class I Violation)

2. LLNL violated Health and Safety Code, section 25202 (a), California Code of Regulations, title 22, section 66270.30 (a) and Hazardous Waste Facility Permit (HWFP) ,Parts III.2. (b) and IV.10 (a) in that, on or about April 12 and September 19, 2001, two containers of mixed wastes were being stored for greater than one year in Area 612, to wit:
 - a. Container Q00043498/W154435, spent organic solid lab trash, waste codes- F002, F005, 352, TSDF start date- 04/11/00;
 - b. Container Q00053568/W154136, spent organic lab trash, waste codes-D040, 352, TSDF start date- 09/18/00.

Evidence: Attachment I, Storage Extension Letter & Container Contents Report.
Witness: Luz Castillo

Compliance Action

LLNL submitted a storage extension request to DTSC on April 12, 2002 for the above containers. **No additional submittal is required at this time.**

Failure To Maintain Aisle Space (Minor Violation)

3. LLNL violated Health and Safety Code, section 25202 (a), California Code of Regulations, title 22, sections 66270.30 (a), and 66264.35 in that on or about March 17, 2003, LLNL failed to maintain the required aisle space in Building 614 west -1002 container storage area, to allow the unobstructed movement of personnel, fire protection equipment, spill control and decontamination equipment, in an emergency.

Evidence: Attachment A, Photographs.
Witness: Luz Castillo

Compliance Action

No further action is required. LLNL has corrected the problem by rearranging the containers and relocating some of the containers to another storage cell.

Operating Record Discrepancies (Class II Violation)

4. LLNL violated LLNL violated Health and Safety Code, section 25202 (a), California Code of Regulations, title 22, sections 66270.30 (a) and 66264.73 in that on or about March 17, 2003, operating records did not accurately reflect the container information and/or location, to wit:
 - a. Containers Q00060940, Q00064308, Q00064309, Q00067581, Q00067582, Q00067583 shipped to Safety Kleen on August 28, 2002, accompanied by manifest no. 21766457, were recorded as being stored in Building 693-1004 in the Container Contents Report (CCR).
 - b. Containers Q00067581, Q00067582, Q00067583 received from LLNL Site 300, on January 10, 2002, manifest 99555539, were recorded with a TSDF start date of December 18, 2001.
 - c. Containers Q00048933, Q00067464, Q00047694, Q00050372, and Q00054925 shipped to Heritage

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on February 1, 2002, accompanied by manifest number 99555562, were recorded as being staged for shipment (i.e.: Location on CCR- "Stage").

- d. The location and TSDF start date for container Q00075751 was missing on the CCR;
- e. The TSDF date on the CCR (8/9/00) was different from the TSDF date observed on the drum label (7/19/01) on container Q00075725.

Evidence: Attachments K & L, Container Contents Report.
Witness: Luz Castillo

Compliance Action

No further action is required. LLNL has submitted corrected CCR's for the above containers, showing the correct information/status (i.e. "Shipped" for waste sent off-site); and actual TSDF start date.

VI. CONCLUSIONS

April 10, 2003

The purpose of the meeting was to discuss DTSC's findings from inspection conducted on March 17-19 and 21, 2003. The meeting was attended by LLNL and U.S. DOE personnel (See Attachment B).

I briefly described the areas that were inspected and the records that were reviewed. I informed them that I would be focusing the discussion on the training violation found as a result of the records review. I identified the training deficiency(ies) noted from each of the six (6) employee records that were reviewed. Mr. Vukelich informed me that some of the courses had already been taken by the employee but not reflected on the training records provided for our review. See Item III.c. of this report for details.

The compliance action in the SOV requires LLNL to demonstrate compliance by the providing DTSC with documentation that the required courses have been completed by the employees, within 30 days.

Pertaining to the rest of the violations, LLNL had taken steps to correct violations 2-4, which was discussed at a close-out meeting on March 21, 2003. I pointed out that specific information on the violations had been identified in the SOV. LLNL agreed that it was not necessary to discuss the violations that did not require further action or submittal from LLNL. Ms. Stephanie Goodwin acknowledged the receipt of the Summary of Violations (See Attachment C).

As part of our inspection, I also informed them of the requirement to complete the RCRA 6002 inspection documents that direct federal purchasing decisions for recycled content products. I said that an inspection guidance document with the attached facility questionnaire and inspector questionnaire have been provided to Ms. Salvo. LLNL has a motor vehicle maintenance shop however, we did not have a chance to conduct an inspection due to the amount of time already spent on the CEI. A copy of the completed document provided by LLNL is on Attachment W.

I informed them that a copy of the report will be mailed to LLNL within 65 days. I complimented them for their extreme cooperation and Ms. Salvo's professionalism in working with us that facilitated the completion of the inspection.

VII. ATTACHMENTS

Attachment A -	Site Maps, 4 pages/Photographs.
Attachment B-	List of Attendees.
Attachment C-	Summary of Violations/ Containment Platform Purchase Request.
Attachment D-	Container Contents Report/STP Waste Info.
Attachment E-	Hauler Registration/Insurance Information.
Attachment F-	Areas 612, 693 and 514 Container and Tank Inventory- pages; Building 614

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	East/West Inventory.
Attachment G-	Building 693-1012 Inventory/Container Analysis.
Attachment H-	Storage Extension Request Table from 4/28/02 to present/ LLNL's Status Update.
Attachment I-	Containers Q00043498/W154136, Q00053568/W154435 Information.
Attachment J-	Reclassified waste W127121/Container Q39582 Information.
Attachment K-	Wastes Received From Site 300/ shipped to Safety-Kleen.
Attachment L-	Wastes Received From Site 300/ shipped to Heritage Environmental.
Attachment M-	Training Records.
Attachment N-	Container Q00075751.
Attachment O-	Container Q00075725.
Attachment P-	Container Q00070557.
Attachment Q-	Container Q00074860.
Attachment R-	Container R010664.
Attachment S-	Treatment Records.
Attachment T-	Hazardous Waste Report Extension.
Attachment U-	Building 419 Weekly Inspection Record.
Attachment V-	Hazardous Waste Facility Permit.
Attachment W-	RCRA 6002 Checklist.

VIII. REPORT WRITTEN BY:

Luz T. Castillo
Senior Hazardous Substances Scientist
Statewide Compliance Division

May 27, 2003

Date